

Attorney Docket No.: **RU-0064**  
Inventors: **Lazarus et al.**  
Serial No.: **09/332,886**  
Filing Date: **June 15, 1999**  
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**REMARKS**

Claims 1-41 are pending in this application. No new matter has been added. Applicants are respectfully requesting reconsideration of the restriction requirement in view of the following remarks.

The claims of the present application have been subjected to a Restriction Requirement under 35 U.S.C. §121 as follows:

Group I, claims 1-4, 9-11, 23-15, and 29-31, drawn to mutant 2,5-DKG reductase; and

Group II, claims 5-8, 12-22, 26-28, and 32-41, drawn to a polynucleotide encoding the mutant 2,5-DKG reductase of Invention I, vector and host cell comprising said polynucleotide.

It is noted that the Examiner has restricted claims "23-15" into Group I. Applicants will assume the restriction is of claims "23-25". The Examiner suggests that the inventions listed as Groups I and II are distinct because the polypeptides of Group I are composed of amino acids and the polynucleotides of Group II are composed of purine and pyrimidine units. It is suggested that searching the inventions of Groups I and II together would impose a serious burden as the inventions have a separate status in the art and are not co-extensive. Applicants are required to elect one of the Groups to be examined.

The Examiner further suggests that the claims encompass the patentably distinct species of: a mutant 2,5-DKG reductase having improved ability to convert 2,5-DKG into 2-KLG; a mutant 2,5-DKG reductase having increased expression; and a mutant 2,5-DKG reductase having improved temperature stability. Applicants are required to elect one of the species to be examined. Applicants

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respectfully request reconsideration of this restriction requirement for the following reasons.

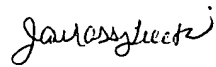
Applicants respectfully disagree with the species election. The mutant 2,5-DKG reductases having improved ability to convert 2,5-DKG into 2-KLG; increased expression; and improved temperature stability only vary from one another by several amino acids. For example, a mutant having increased expression would vary from the other species by substitutions at positions 2, 5, and 7, whereas a mutant having improved temperature stability would vary from the other species by substitutions at positions 55 and 57. However, all species still function as 2,5-DKG reductases. Therefore, the claimed species of mutant 2,5-DKG reductases are so closely related that a search and examination of all three species can be made by the Examiner without serious burden. See MPEP 803.02. The courts have held that it is improper for the Office to refuse to examine that which Applicants regard as their invention, unless the subject matter in a claim lacks unity of invention. In re Harnish, 631 F.2d 716, 206 USPQ 300 (CCPA 1980); and Ex parte Hozumi, 3 USPQ2d 1059 (Bd. Pat. App. & Int. 1984). Broadly, unity of invention exists where compounds included within a Markush group (1) share a common utility and (2) share a substantial structural feature disclosed as being essential to that utility. The three species of mutant 2,5-DKG reductases would meet both of these criteria. Thus, Applicants respectfully request reconsideration of this species election.

However, in an earnest effort to be completely responsive, Applicants hereby elect to prosecute Group I, claims 1-4, 9-11, 23-25, and 29-31, drawn to mutant 2,5-DKG reductase, classified in class 435, subclass 189, with traverse. Further, Applicants

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hereby elect to prosecute the species of mutant 2,5-DKG  
reductases having improved ability to convert 2,5-DKG into 2-KLG,  
with traverse.

Respectfully submitted,



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Date: **June 1, 2005**

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